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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/588,061

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EXAMINER

DOVE, TRACY MAE

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

03/12/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/588,061	Applicant(s) SHIMAMURA ET AL.	
	Examiner TRACY DOVE	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-6 is/are pending in the application.
- 4a) Of the above claim(s) 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/25/10</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the communications filed on 6/22/09 and 11/19/09. Applicant's arguments have been considered, but are not persuasive. Claims 1 and 4-6 are pending. Claim 6 has been withdrawn from consideration. This Action is FINAL, as necessitated by amendment.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 2/25/10 has been considered by the examiner.

Election/Restrictions

Applicant's election of Species 1 (manganese dioxide) in the reply filed on 11/19/09 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Claims 1, 4 and 5 read upon the elected species. Claim 6 is withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eylem et al., US 7,049,030 in view of Noriyuki et al., JP 2000-082503.

Eylem teaches an alkaline battery comprising a positive electrode, a negative electrode and an alkaline electrolyte. The alkaline electrolyte has a dissolved aluminum material. The negative electrode includes a zinc active material (1:31-66). The negative electrode can further include an aluminum material (2:59-60). The zinc active material of the negative electrode may be zinc alloy (5:23-24). The alkaline electrolyte may be an electrolytic solution such as an aqueous hydroxide solution (e.g., LiOH, NaOH, KOH or mixtures thereof) and is dispersed throughout the battery (3:28-40). A portion of the electrolytic solution is dispersed throughout the negative electrode (5:15-17). The electrolytic solution can include equal to or less than 2 wt% of aluminum. For relatively unconcentrated alkaline electrolytic solution, less aluminum material can be used (4:12-21). The positive electrode material may be manganese oxide (6:37-46).

Eylem does not explicitly teach the alkaline electrolytic solution of the negative electrode mixture contains 0.1-2 wt% of LiOH. Eylem teaches a combination of KOH and LiOH may be used as the electrolytic solution.

However, Noriyuki teaches an alkaline battery comprising a negative electrode of zinc particles and an electrolyte of potassium hydroxide. The electrode also may include lithium hydroxide in an amount of 0.1-1 wt% (abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made include the lithium hydroxide taught by Eylem in an amount of 0.1-1 wt%, as taught by Noriyuki, in order to effectively transfer ions to and from the electrode during the charge/discharge cycle of the battery and suppress the reactivity of the electrode materials with the electrolyte solution. Noriyuki teaches the battery has improved

Art Unit: 1795

properties because the zinc negative electrode is protected from corrosion from the potassium hydroxide solution.

Regarding claim 4, Eylem teaches a portion of the electrolytic solution is dispersed throughout the negative electrode. Eylem does not explicitly teach a weight ratio of alkaline electrolyte to the zinc alloy of the negative electrode mixture is 0.1-2. However, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because one of skill would have known that the amount of electrolyte present in the negative electrode could have been varied depending on the concentration of the electrolytic solution. One of skill would have known that a sufficient amount of electrolytic solution would need to be contained in the negative electrode to prevent the formation of copper metal while consuming a corresponding amount of zinc resulting in lower battery capacity, to prevent evolution of hydrogen gas and to prevent the formation of dendrites that can result in short circuit of the battery (Eylem 3:41-59). One of skill would have also known that the amount of active material contained in the negative electrode would need to be maximized to prevent a decrease in battery capacity. Thus, one of skill would not have been motivated to provide excess amounts of electrolytic solution in the negative electrode active material mixture. One of skill in the art would have understood the potential tradeoffs between adding different amounts of electrolytic solution to the negative electrode active material mixture and could have altered the amount to achieve the desired effects of the battery. Eylem teaches the amount of electrolytic solution can vary depending on the concentration of the alkaline electrolyte.

Response to Arguments

Applicant's arguments filed 6/22/09 have been fully considered but they are not persuasive.

Applicant argues Eylem teaches the amount of aluminum is from 1-8 wt%. While Eylem further teaches less aluminum can be used, it does not disclose the precise range of 0.001-2 wt% as recited by the claimed invention. However, Eylem teaches less than or equal to 2 wt% and less than 1 wt% of aluminum is contained in the electrolytic solution. Thus the claimed range is contained within the prior art range. Without a showing of criticality for the claimed range over the prior art, the limitation is considered obvious in view of the teachings of Eylem. Note Tables 2 and 3 are not representative of the teachings of Eylem and/or Noriyuki (see Table 1 of the present specification). Furthermore, Tables 2 and 3 are not commensurate in scope with the claimed invention. For example, Table 2 shows values for various zinc alloys. The claimed invention does not recite any specific zinc alloy composition. Also, Tables 2 and 3 require an aluminum compound of $\text{Al}(\text{OH})_3$, which is not required by the claimed invention. Evidence of unexpected results must distinguish the claimed invention over the prior art of record.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRACY DOVE whose telephone number is (571)272-1285. The examiner can normally be reached on M & TU (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

March 9, 2010

/TRACY DOVE/

Primary Examiner, Art Unit 1795